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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,521	01/09/2006	Jun Hirano	L9289.04191	7130
7550 Stevens Davis Miller & Mosher Suite 850 1615 L Street NW Washington, DC 20036			EXAMINER ANWAR, MOHAMMAD S	
			ART UNIT 4125	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,521

Applicant(s)

HIRANO ET AL.

Examiner

MOHAMMAD ANWAR

Art Unit

4125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 12/13/04, 11/6/06, 6/5/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 1, 4-11 must be labeled with descriptive legends such as in Figure 1, MT (Mobile Terminal). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 1-21 are objected to because of the following informalities:

In claim 1 line 15 recites "a data communication" which seems to refer to "a data communication" in claim 1 line 4. If this is true, it is suggested to change "a data communication" to ---the data communication----. Similar problem exists in claim 7 line 3

In claim 2 line 16 recites "a data communication" which seems to refer to "a data communication" in claim 2 line 11. If this is true, it is suggested to change "a data communication" to ---the data communication----. Similar problem exists in claim 8 line 3.

In claim 19 line 13 recites "a data communication" which seems to refer to "a data communication" in claim 19 line 5. If this is true, it is suggested to change "a data communication" to ---the data communication----.

In claim 20 line 13 recites "a data communication" which seems to refer to "a data communication" in claim 20 line 10. If this is true, it is suggested to change "a data communication" to ---the data communication----.

In claim 21 lines 14, 17, 26 and 28 recites "a data communication" which seems to refer to "a data communication" in claim 21 line 10. If this is true, it is suggested to change "a data communication" to ---the data communication----.

In claim 21 line 20 recites "an intermittent communication apparatus" which seems to refer to "an intermittent communication apparatus" in claim 21 line 6. If this is true, it is suggested to change "an intermittent communication apparatus" to ---the intermittent communication apparatus----.

In claim 21 line 22 recites "an intermittent communication request" which seems to refer to "an intermittent communication request" in claim 21 line 13. If this is true, it is

suggested to change "an intermittent communication request" to ---the intermittent communication request---.

In claim 21 line 25 recites "identification information" which seems to refer to "identification information" in claim 20 line 8. If this is true, it is suggested to change "identification information" to ---the identification information---.

In claim 21 line 26 recites "an intermittent communication period" which seems to refer to "an intermittent communication period" in claim 21 line 9. If this is true, it is suggested to change "an intermittent communication period" to ---the intermittent communication period---.

In claim 15 line 3 recites "a Nack signal" which should be spelled out as negative acknowledgment (NACK) signal.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 22 and 23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For claims 22 and 23, the claims are directed to a computer program per se which is non statutory subject matter. The claims recite a computer to execute, the claims fail to mention that "a computer-readable medium" is stored with, encoded with, or embodied with "computer executable instructions" and without these components the functionality of the claimed invention cannot be carried out.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-12 and 17-23 are rejected under 35 U.S.C. 102(e) as being unpatentable by Du et al. (6556576).

For claim 1, Du et al. disclose an intermittent communication method comprising: a step of transmitting identification information (see column 6 line 3) including an intermittent communication period (see column 8 line 17) and frame information for carrying out a data communication together with an intermittent communication request from a communication terminal apparatus to a communication terminal accommodation apparatus (see column 7 lines 61-67); a step of the

communication terminal accommodation apparatus transmitting a confirmation signal of the intermittent communication request to the communication terminal apparatus (see column 8 line 19); and a step of the communication terminal apparatus entering an intermittent communication mode when the communication terminal apparatus receives the confirmation signal and carrying out a data communication using only the frame for carrying out the data communication in the intermittent communication mode (see column 8 lines 20-23).

For claim 2, Du et al. disclose a step of transmitting an intermittent communication request from a communication terminal apparatus to a communication terminal accommodation apparatus (see column 8 lines 12-13) ; a step of the communication terminal accommodation apparatus transmitting a confirmation signal of the intermittent communication request together with identification information including an intermittent communication period and frame information for carrying out a data communication to the communication terminal apparatus (see column 8 lines 14-21); and a step of the communication terminal apparatus entering an intermittent communication mode when the communication terminal apparatus receives the confirmation signal and carrying out a data communication with only the frame for carrying out the data communication in the intermittent communication mode (see column 8 lines 20-23).

For claims 3 & 4, Du et al. disclose wherein the identification information includes information on the number of frames used for a communication (see column 8 lines 6-7).

For claims 5 & 6, Du et al. disclose wherein the intermittent communication period matches the period of the same frame as that of MAC broadcast (see column 8 lines 59-63).

For claims 7 & 8, Du et al. disclose wherein the communication terminal apparatus does not receive any control channel signal in a data communication in the intermittent communication mode (see column 8 lines 33-36. It is clear that no control channel signal messaging or requests were sent during the intermittent or standby mode).

For claims 9 & 10, Du et al. disclose wherein the intermittent communication mode period is shorter than a maximum allowable synchronization holding time of the communication terminal apparatus (see column 7 lines 63-67 and column 8 lines 1-2).

For claims 11 & 12, Du et al disclose wherein when the intermittent communication mode period is longer than a maximum allowable synchronization holding time, the communication terminal apparatus receives a control channel signal to correct an out-of-synchronization state (see column 8 lines 23-33).

For claims 17 & 18, Du et al. disclose wherein the intermittent communication period is set to once every 2^n frames (n : natural number) and an intermittent communication is performed by patterning applications with a plurality of periods (see column 8 lines 16-17).

For claim 19, Du et al. disclose an identification information insertion section that inserts identification information (see column 6 lines 2-3) including an intermittent communication period (see column 8 lines 16-17) and frame information for carrying out

a data communication into transmission data (see column 7 lines 56-67); and a control section (see column 2 lines 65-66) that performs control, when a confirmation signal in response to an intermittent communication request is received from a communication terminal accommodation apparatus (see column 8 lines 20-21), in such a way that the data communication is carried out based on the intermittent communication period and frame information for carrying out a data communication only using the frame for carrying out the data communication (see column 7 lines 56-67 and column 8 lines 1-2).

. **For claim 20**, Du et al. disclose a reception section that receives an intermittent communication request from a communication terminal apparatus (see column 8 lines 17-20); a transmission section that transmits a confirmation signal of the intermittent communication request together with identification information including an intermittent communication period and frame information for carrying out a data communication to the communication terminal apparatus (see column 8 lines 12-14); and a communication control section that carries out a data communication, when the communication terminal apparatus enters an intermittent communication mode using only the frame for carrying out the data communication in the intermittent communication mode (see column 2 lines 66-67).

For claim 21, Du et al. disclose wherein the communication terminal apparatus comprises an intermittent communication apparatus provided with an identification information insertion section that inserts identification information including an intermittent communication period and frame information for carrying out a data communication into transmission data and a control section that performs

control, when a confirmation signal in response to an intermittent communication request is received from the communication terminal accommodation apparatus, in such a way that a data communication is carried out using only the frame for carrying out the data communication based on the intermittent communication period and frame information for carrying out a data communication (see column 8 lines 60-65), and the communication terminal accommodation apparatus comprises an intermittent communication apparatus provided with a reception section that receives an intermittent communication request from the communication terminal apparatus (see column 8 lines 17-20) , a transmission section that transmits a confirmation signal of the intermittent communication request together with identification information including an intermittent communication period and frame information for carrying out a data communication and a communication control section that carries out a data communication, when the communication terminal apparatus enters an intermittent communication mode, using only the frame for carrying out the data (see column 8 lines 12-14).

For claim 22, Du et al. disclose An intermittent communication program to cause a computer to execute (see column 2 lines 63-67, column 3 lines 1-10, column 8 lines 60-65): a step of transmitting identification information (see column 6 lines 2-3) including an intermittent communication period (see column 8 lines 16-17) and frame information for carrying out a data communication together with an intermittent communication request from a communication terminal apparatus to a communication terminal accommodation apparatus (see column 8 lines 17-20); a step of the communication terminal accommodation apparatus transmitting a confirmation signal of the intermittent

communication request to the communication terminal apparatus (see column 8 lines 12-14); and a step of the communication terminal apparatus entering an intermittent communication mode when the communication terminal apparatus receives the confirmation signal and carrying out a data communication using only the frame for carrying out the data communication in the intermittent communication mode (see column 8 lines 20-23).

For claim 23, Du et al. disclose a step of transmitting an intermittent communication request from a communication terminal apparatus to a communication terminal accommodation apparatus (see column 8 lines 11-14); a step of the communication terminal accommodation apparatus transmitting a confirmation signal of the intermittent communication request (see column 8 line 19) together with identification information (column 6 lines 2-3) including an intermittent communication period and frame information for carrying out a data communication to the communication terminal apparatus (see column 8 line 17); and a step of the communication terminal apparatus entering an intermittent communication mode when the communication terminal apparatus receives the confirmation signal (see column 8 lines 20-23) and carrying out a data communication using only the frame for carrying out the data communication in the intermittent communication mode (see column 7 lines 56-67 and column 8 lines 1-2).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al. in view of Kawano et al. (4926421).

For claims 13 & 14, Du et al. disclose all the subject matter but fails to mention wherein the communication terminal apparatus receives a control channel signal for periodically checking the control of the communication terminal accommodation apparatus in the intermittent communication mode period. However, Kawano et al. from a similar field of endeavor disclose wherein the communication terminal apparatus receives a control channel signal for periodically checking the control of the communication terminal accommodation apparatus in the intermittent communication mode period (see column 4 lines 36-53). Thus, it would have been obvious to one ordinary skill in the art to include Kawano et al. control channel signaling scheme into Du et al. intermittent communication scheme. The method can be implemented in the hardware and software. The motivation of doing this is to check the status of standby mode terminal.

11. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al. in view of Koo et al. (7269145).

For claims 15 & 16, Du et al. disclose all the subject matter but fails to mention wherein when the communication terminal apparatus' receives a Nack signal from the communication terminal accommodation apparatus, a retransmission frame is added. However, Koo et al. from a similar field of endeavor disclose wherein when the communication terminal apparatus' receives a Nack signal from the communication terminal accommodation apparatus, a retransmission frame is added (see Figure 5, column 8 lines 65-67, column 9 lines 1-2). Thus, it would have been obvious to one ordinary skill in the art to include Koo et al. NACK and retransmission scheme into Du et

al. intermittent communication scheme. The method can be implemented in the packet header. The motivation of doing this is to retransmit a packet in case it is not received by the receiver.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gollnick et al. (5940771) and Yano et al. (6807235).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ANWAR whose telephone number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4144

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MOHAMMAD ANWAR
Examiner
Art Unit 4125

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